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EXAMINER

PANTOLIANO JR, RICHARD

ART UNIT	PAPER NUMBER
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2194

DATE MAILED: 10/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/640,625

Applicant(s)

REES ET AL.

Examiner

Richard Pantoliano Jr

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 August 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
- Paper No(s)/Mail Date 20030812.

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

WILLIAM THOMSON
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

DETAILED ACTION

1. This is the initial office action for Application# **10/640,625** filed on **12 August 2003**. **Claims 1-23** are currently pending and have been considered below.

Information Disclosure Statement

2. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.
3. Applicant listed multiple non-patent literature references on page 21 of the specification of the instant application, but neglected to include said references in an Information Disclosure Statement and neglected to provide copies of said references. Applicant should provide copies of all references disclosed in the specification and cite said references on an Information Disclosure Statement to ensure that said references are officially made of record.

Oath/Declaration

4. The declaration submitted with the original disclosure on **12 August 2003** listed Arra E. Avarkian, Raymond M. Bloom, and Jeffrey Rees as the joint inventors of the submitted disclosure. A second declaration, filed on **12 February 2004**, listed the

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above listed inventors, as well as a forth inventor, Michael P. Cleaves. Pursuant to 37 CFR 1.48, the addition of Mr. Cleaves to the inventive entity constitutes a correction of inventorship and requires Applicant to file a petition to correct inventorship of the present application.

Drawings

5. The drawings are objected to because element 64 of Figure 17 is labeled as "DTL", but referenced in the text on page 33, line 14 of the specification as "JTL".

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency.

Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

6. The disclosure is objected to because of the following informalities:

a) Pages 1, 45 and 46: Applicant listed several copending applications related to the instant application without providing the serial numbers associated with said applications.

b) Pages 2-6: Several acronyms are utilized within these pages of the specification without defining said acronyms. Examples of such acronyms are COM (pg 2, line 25), ARM (pg 5, line 7), and JSP (pg 6, line 30).

c) 35 U.S.C. 112, first paragraph, requires the specification to be written in "full, clear, concise, and exact terms." The specification is replete with terms which are not clear, concise and exact. The specification should be revised carefully in order to comply with 35 U.S.C. 112, first paragraph. Examples of some unclear, inexact or verbose terms used in the specification are:

i) Page 7, Line 11 – "JPS" is used instead of "JSP"

ii) Page 11, Line 30 – "debuging" is used instead of "debugging"

ii) Page 24, Line 17 – "VJM" is used instead of "JVM".

7. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The

abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

8. The abstract of the disclosure is objected to because the abstract contains more than 150 words. Correction is required. See MPEP § 608.01(b).

Claim Objections

9. **Claims 1, 2, 9, 14, 20 and 21** are objected to because of the following informalities:

a) Claims 1 and 20: The acronym "COM" is not defined.

b) Claims 2 and 21: The acronym "ARM" is not defined.

c) Claim 9: As stated, the claim specifies that the only object that was "requested" was a proxy object. In light of **Claim 8**, upon which **Claim 9** depends, the other objects specified by Applicant should also be identified as being requested objects.

d) Claim 14: The acronyms "W2K" and "NT" are not defined.

Appropriate correction is required.

10. **Claims 13 and 14** objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.

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Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim 13: No version information is given for the software libraries specified in this claim. Without specifying the exact version of the software libraries used, Applicant claims the use of all software libraries created with that name and claims the use of all future versions of said software modules of that name, even if the functionality of said software libraries with those names do not contain the functionality of the libraries of which Applicant is utilizing (i.e. a library to perform a task unrelated to the tasks handled by the libraries specified by the Applicant, or the manufacture of the specified library changing the functionality of that library in future versions, resulting in future versions no longer containing the functionality upon which Applicant's invention depends). Applicant should specify version information (manufacturer and specific version number supplied by the manufacture of said libraries) to specifically indicate the software libraries utilized in Applicant's invention. Until said version information is specified, no patentable weight can be given to usage of the named software libraries.

Claim 14: No version information is given for the functions specified in this claim. Without specifying the exact version of the functions used, Applicant claims the use of all functions created with that name and claims the use of all future versions of said functions of that name, even if the functionality of said functions with those names do not perform the same tasks as those of which Applicant is utilizing (i.e. a function to perform a task unrelated to the tasks handled by the function specified by the Applicant, or the manufacture of a library changing the functionality of said function in future

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versions, resulting in future versions no longer performing the same tasks upon which Applicant's invention depends). Applicant should specify version information (manufacturer and specific version number supplied by the manufacture of said functions) to specifically indicate the functions utilized in Applicant's invention. Until said version information is specified, no patentable weight can be given for the usage of the named software functions.

Claim Rejections - 35 USC § 112

11. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

12. **Claim 8** is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted step is utilizing the defined policy to either generate the wrapper for the requested COM object or not generate the wrapper.

As it currently stands, **Claim 8** merely states that a policy is generated which determines whether a wrapper should be generated. In light of Applicant's specification, which indicates that the policy should be utilized to ensure that wrappers are not generated under certain conditions, the Examiner assumes that Applicant's intent with regard to **Claim 8** is to claim the generation and usage of said policy and will examine **Claim 8** accordingly.

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13. The following is a quotation of the fourth paragraph of 35 U.S.C. 112:

Subject to the following paragraph, a claim in dependent form shall contain a reference to a claim previously set forth and then specify a further limitation of the subject matter claimed. A claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers.

14. **Claim 8** is rejected under 35 U.S.C. 112, fourth paragraph, for failing to incorporate all of the limitations of the claim to which it refers.

The preamble of **Claim 1** states that the claim is directed toward "...a method of instrumenting a COM object...". **Claim 8**, being dependent upon **Claim 1**, incorporates both the stated objective of **Claim 1** and the method disclosed for accomplishing that stated objective. However, in view of the above rejection and resulting interpretation of **Claim 8** under the second paragraph of 35 U.S.C. 112, **Claim 8**, in the event that the utilized policy results in a wrapper not being generated, fails to accomplish the stated goal of instrumenting a requested COM object by eliminating the limitation specified in **Claim 1** of generating the wrapper and all subsequent limitations dependant upon said generation.

Claim Rejections - 35 USC § 102

15. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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16. **Claims 20 and 23** are rejected under 35 U.S.C. 102(b) as being anticipated by Hunt (US Pat: 6,263,491).

Claim 20: Hunt discloses the system for monitoring a response time of a transaction performed by a COM object, the system comprising at least one monitoring agent to intercept requests for creating at least one COM object (*Col 37, Line 61 – Col 38, Line 57*) and generates a wrapper, wherein said wrapper object:

a) implements a universal interface having a plurality of virtual functions (Hunt, *Col 8, Lines 22 – 49, Figure 3; Col 45, Line 63 – Col 46, Line 30 and Figure 17*)(*The universal interface is the virtual function table of the wrapper interface*); and

b) each function is indexed by a number corresponding to an index number of a method associated with an interface of said requested COM object (Hunt, *Col 8, Lines 22 - 49 and Figure 3*) (*As disclosed on Page 39, Lines 5-19 of Applicant's disclosure, the functions of the interfaces associated with a COM object are inherently indexed. The standardized binary format of the COM virtual function table allows for this*).

Claim 23: Hunt discloses a computer readable medium storing instructions for performing a method of instrumenting a COM object invoked by a client, the instructions comprising:

a) instructions for intercepting a request from the client (Hunt, *Col 45, Lines 46-62*);

b) instructions for generating a wrapper object corresponding to said requested COM object (Hunt, Col 45, Lines 46-62), said wrapper object implementing a universal interface having a plurality of virtual functions (Hunt, Col 8, Lines 22 – 49, Figure 3; Col 45, Line 63 – Col 46, Line 30 and Figure 17)(The universal interface is the virtual function table of the wrapper interface) each indexed by a number corresponding to an index number of a method associated with an interface of said requested COM object (Hunt, Col 8, Lines 22 - 49 and Figure 3) (As disclosed on Page 39, Lines 5-19 of Applicant's disclosure, the functions of the interfaces associated with a COM object are inherently indexed. The standardized binary format of the COM virtual function table allows for this); and

c) instructions for providing said client with a reference pointer to said wrapper COM object (Hunt, Col 45, Lines 46-62).

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. **Claims 1-19, 21 and 22** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hunt (US Pat: 6,263,491) in view of Burdick (US Patent: 6,041,352).

Claim 1: Hunt discloses a method of instrumenting a COM object invoked by a client for performing a selected business logic, comprising:

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a) intercepting a request from the client for creating said COM object (Hunt, Col 45, Lines 46-62);

b) generating a wrapper object corresponding to said requested COM object (Hunt, Col 45, Lines 46-62), said wrapper object implementing a universal interface having a plurality of virtual functions (Hunt, Col 8, Lines 22 – 49, Figure 3; Col 45, Line 63 – Col 46, Line 30 and Figure 17)(The universal interface is the virtual function table of the wrapper interface) each indexed by a number corresponding to an index number of a method associated with an interface of said requested COM object (Hunt, Col 8, Lines 22 - 49 and Figure 3) (As disclosed on Page 39, Lines 5-19 of Applicant's disclosure, the functions of the interfaces associated with a COM object are inherently indexed. The standardized binary format of the COM virtual function table allows for this);

c) providing said client with a reference pointer to said wrapper COM object (Hunt, Col 45, Lines 46-62); and

d) upon invocation of a method associated with an interface of the requested COM object by the client, invoking a function of said universal interface of the wrapper object indexed by a number corresponding to an index number of said requested method, wherein said invoked function's executing instructions corresponding to said requested method (Hunt, Col 45, Lines 46-62 and Figure 17).

While Hunt further discloses the use of a module to record the behavior of the system being analyzed ("information logger")(Hunt, Col 37, Lines 40-59), Hunt does not disclose the referencing of instructions for saving a start time marker upon the start of

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the instrumented function or saving a stop time marker upon completion of execution of the instrumented function.

Burdick discloses instrumenting functions by placing start and stop Application Programming Interface (API) calls at the start and end of a function, respectively in order to gauge the response time of the function (*Burdick, Col 3, Line 57 – Col 4, Line 2*).

One of ordinary skill in the art at the time of invention would have knowingly combined the teachings of Burdick with Hunt's method in order to gauge the response time of the system upon which the method was implemented. By measuring the latency of the execution of functions on the network, one would be able to better organize the distribution of the system to achieve optimum efficiency in executing tasks (*Hunt, Col 24, Line 19-Col 26, Line 2*) (*Burdick, Col 1, Lines 14 – 34*).

Claim 2: Hunt and Burdick disclose the method of **Claim 1**, but Hunt does not disclose the registering of the invoked method with an Application Response Measurement (ARM) agent.

Burdick discloses the use of the ARM API to collect the start and stop times of a function. Since the ARM API requires that an application register its function with an agent before (*Burdick, Col 3, Line 57 – Col 4, Line 2*)(*The ARM API requires that, before an application can begin making requests to start and stop recording the execution time of a function, the application must register the application with an ARM agent*).

One of ordinary skill in the art at the time of invention would have knowingly combined the teachings of Burdick with Hunt's method in order to gauge the response time of the system upon which the method was implemented. By measuring the latency of the execution of functions on the network, one would be able to better organize the distribution of the system to achieve optimum efficiency in executing tasks (Hunt, Col 24, Line 19-Col 26, Line 2) (Burdick, Col 1, Lines 14 – 34).

Claim 3: Hunt and Burdick disclose the method of **Claim 2**, but Hunt does not disclose invoking the ARM agent for recording the start of the function requested of the COM object.

Burdick discloses use of the ARM API to collect the start time of a function (Burdick, Col 3, Line 57 – Col 4, Line 2)(The ARM API forwards requests to record the start time of a function to ARM agents within the system).

One of ordinary skill in the art at the time of invention would have knowingly combined the teachings of Burdick with Hunt's method in order to gauge the response time of the system upon which the method was implemented. By measuring the latency of the execution of functions on the network, one would be able to better organize the distribution of the system to achieve optimum efficiency in executing tasks (Hunt, Col 24, Line 19-Col 26, Line 2) (Burdick, Col 1, Lines 14 – 34).

Claim 4: Hunt and Burdick disclose the method of **Claim 3**, but Hunt does not disclose invoking the ARM agent to record the ending of the function requested of the COM object.

Burdick discloses use of the ARM API to collect the stop time of a function (*Burdick, Col 3, Line 57 – Col 4, Line 2*)(*The ARM API forwards requests to record the stop time of a function to ARM agents within the system*).

One of ordinary skill in the art at the time of invention would have knowingly combined the teachings of Burdick with Hunt's method in order to gauge the response time of the system upon which the method was implemented. By measuring the latency of the execution of functions on the network, one would be able to better organize the distribution of the system to achieve optimum efficiency in executing tasks (*Hunt, Col 24, Line 19-Col 26, Line 2*) (*Burdick, Col 1, Lines 14 – 34*).

Claim 5: Hunt and Burdick disclose the method of **Claim 1**, wherein Hunt further discloses the wrapper COM object containing a data structure for storing the number and type of arguments associated with the requested COM object (*Hunt, Col 45, Line 63 – Col 46, Line 30 and Figure 17, element 706*).

Claim 6: Hunt and Burdick disclose the method of **Claim 1**, wherein Hunt further discloses said wrapper object comprises a reference pointer for referring to said requested COM object (*Hunt, Col 45, Line 46 – Col 46, Line 30 and Figure 17, element 706*).

Claim 7: Hunt and Burdick disclose the method of **Claim 1**, wherein Hunt further discloses said wrapper object comprises a pointer referring to said universal interface (Hunt, Col 8, Lines 22 – 49, Figure 3; Col 45, Line 63 – Col 46, Line 30 and Figure 17)(The universal interface is the virtual function table of the wrapper interface).

Claim 8: Hunt and Burdick disclose the method of **Claim 1**, wherein Hunt further discloses a policy that indicates whether to perform the step of generating a wrapper COM object corresponding to the requested COM object (Hunt, Col 47, Lines 9-19).

Claim 9: Hunt and Burdick disclose the method of **Claim 8**, wherein Hunt further discloses said policy being applied to a requested proxy object, a COM object belonging to an MTS package, and a COM+ object (Col 7, Line 66- Col 8, Line 12; Col 11, Lines 5-51; and Col 47, Lines 9-19) (Hunt discloses that the disclosed method for wrapping a COM object can be used for any COM component technology (COM, COM+, DCOM). Since a the package that a COM object belongs to is irrelevant as to the possibility of it being wrapped, COM objects that are a part of an MTS package is encompassed by Hunt's disclosure. Further, since they are accessed in a similar manner to a virtual function that is a part of a COM object, proxies can be instrumented in the same manner. Since the policy for wrapping applies to all objects that are being instrumented through wrapping, the policy would then apply to proxy objects, COM objects that belong to the MTS package, and COM+ objects).

Claim 10: Hunt and Burdick disclose the method of **Claim 8**, wherein Hunt further discloses storing said policy in a tabular format in a registry of a system on which said COM objects are executed (Hunt, Col 47, Lines 9-19)(*The hash table serves as the registry for storing information concerning what objects have and have not been wrapped. This information allows the COIGN system to determine what objects should or should not be wrapped*).

Claim 11: Hunt and Burdick disclose the method of **Claim 1**, wherein Hunt further discloses the step of intercepting a request comprises patching code associated with one or more selected system functions (Hunt, Col 31, Lines 45-52).

Claim 12: Hunt and Burdick disclose the method of **Claim 11**, wherein Hunt further discloses that the functions are provided in a dynamic link library (Hunt, Col 29, Line 66 – Col 30, Line 8 and Col 31, Lines 45-52).

Claim 13: Hunt and Burdick disclose the method of **Claim 12**, wherein Hunt further discloses that the dynamic link library is Ole32.dll (Hunt, Table 3 in Cols 33 & 34).

Claim 14: Hunt and Burdick disclose the method of **Claim 11**, wherein Hunt further discloses that the instrumented system functions can be the CoCreateInstance

or CoCreateInstanceEx functions (Hunt, Col 41, Lines 27-34). Also, Hunt further states that the commonality between COM API functions allows for any system function to be instrumented in said manner, including all others listed by Applicant. One of ordinary skill in the art at the time of invention would have knowingly utilized Hunt's method of instrumenting system functions for the purpose of profiling applications that make use of said functions (Hunt, Col 16, Lines 3-7) ("Profiling" is the operating of a system while measuring its performance, usually to determine how said performance can be improved).

Claim 15: Hunt and Burdick disclose the method of **Claim 11**, wherein Hunt further discloses the utilization of hooks associated with said system functions to refer to a program for patching said system functions (Hunt, Col 37, Line 34 – Col 38, Line 16) (Hunt states that the COIGN runtime environment, the system for instrumenting COM objects and adding additional functionality to said instrumented objects, is implemented using COM objects to which other COM objects can be added or removed to change the functionality of the system. These objects serve as the hooks for the system).

Claim 16: Hunt and Burdick disclose the method of **Claim 15**, with Hunt further disclosing said hooks comprising a designated string stored in the system registry (Hunt, Col 37, Line 34 – Col 38, Line 16) (COM objects, of which Hunt's hook comprise, contain entries in a registry to allow the operating system to load said modules when requested by an application requesting to load said modules into memory).

Claim 17: Hunt and Burdick disclose the method of **Claim 16**, wherein Hunt further discloses the patching of system functions comprises replacing selected bytes in a code with a jump instruction to a code creating said requested COM object and generating the wrapper object (*Hunt, Col 41, Lines 41-56 and Figure 14*).

Claim 18: Hunt and Burdick disclose the method of **Claim 17**, wherein Hunt further discloses copying instructions in said system function code corrupted by said jump instruction to an allocated data area (*Hunt, Col 41, Lines 41-56 and Figure 14*).

Claim 19: Hunt and Burdick disclose the method of **Claim 18**, wherein Hunt further discloses decoding said selected bytes prior to their replacement by said jump instruction to determine the total number of bytes corresponding to instructions corrupted by said inserted jump instruction (*Hunt, Col 41, Lines 41 – Col 42, Line 4 and Figure 14*)(*The instructions must be decoded in order to determine their length and, therefore, determine how much has to be copied to the new data area*).

Claim 21: Hunt discloses the system of **Claim 20**, but does not disclose one of the monitoring agents being in communication with an ARM agent.

Burdick discloses the use of the ARM API to collect the start and stop times of a function by communicating with an ARM agent (*Burdick, Col 3, Line 57 – Col 4, Line 2*)(*The ARM API requires that, before an application can begin making requests*

to start and stop recording the execution time of a function, the application must register the application with an ARM agent).

One of ordinary skill in the art at the time of invention would have knowingly combined the teachings of Burdick with Hunt's method in order to gauge the response time of the system upon which the method was implemented. By measuring the latency of the execution of functions on the network, one would be able to better organize the distribution of the system to achieve optimum efficiency in executing tasks (Hunt, Col 24, Line 19-Col 26, Line 2) (Burdick, Col 1, Lines 14 – 34).

Claim 22: Hunt and Burdick disclose the system of **Claim 21**, with Hunt further disclosing the virtual function executing the method invoked by the client (Hunt, Col 45, Lines 46-62 and Figure 17).

While Hunt further discloses the use of a module to record the behavior of the system being analyzed ("*information logger*")(Hunt, Col 37, Lines 40-59), Hunt does not disclose the referencing of instructions for saving a start time marker upon the start of the instrumented function or saving a stop time marker upon completion of execution of the instrumented function.

Burdick discloses instrumenting functions by placing start and stop Application Programming Interface (API) call at the start and end of a function, respectively (Burdick, Col 3, Line 57 – Col 4, Line 2).

One of ordinary skill in the art at the time of invention would have knowingly combined the teachings of Burdick with Hunt's method in order to gauge the response

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time of the system upon which the method was implemented. By measuring the latency of the execution of functions on the network, one would be able to better organize the distribution of the system to achieve optimum efficiency in executing tasks (Hunt, Col 24, Line 19-Col 26, Line 2) (Burdick, Col 1, Lines 14 – 34).

Conclusion

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

a) Thatte et al. (US Pat#: 6,442,620) discloses extending the functionality of COM objects at object creation time and discloses policy objects used to control the communication and functionality of COM objects;

b) Chieu et al. (US Pat#: 6,587,888) discloses the use of dynamic software wrappers for DCOM objects to intercept and instrument the functionality of the DCOM object being accessed;

c) Teegan et al. (US Pat#: 6,748,555) discloses the use of object wrappers to monitor the usage and performance of a COM object;

d) Aragona (US Pat#: 6,772,228) discloses the aggregation of COM objects via a server offering the functionality of said aggregated COM objects to clients;

e) Brown (Keith Brown. "Building a Lightweight COM Interception Framework Part 1: The Universal Delegator." Microsoft Systems Journal (January 1999)) discloses the use of a universal delegator to wrap COM objects to allow for instrumentation of the functions of said COM objects;

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f) Dunn (Michael Dunn. "Introduction to COM – What Is It and How To Use It."

The Code Project. 28 July 2000. Accessed 27 September 2006.

<<http://www.codeproject.com/com/comintro.asp?print=true>>) discloses the steps for creating, deleting, and using COM objects;

g) Hunt and Scott (Galen C. Hunt and Michael L. Scott. "Intercepting and Instrumenting COM Applications." 5th USENIX Conference on Object-Oriented Technologies and Systems. (1999)) disclose the use of object wrappers to instrument the functionality of COM objects for the purpose of extending the functionality of said COM objects without the need of modifying the source code of said COM objects;

h) Johnson (Mark W. Johnson. "The Application Response Measurement (ARM) API, Version 2." (1997) ARM Working Group. Accessed 9 September 2006) discloses the method for utilizing monitoring agents implementing the ARM API;

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Pantoliano Jr whose telephone number is (571) 270-1049. The examiner can normally be reached on Monday-Thursday, 8am - 4 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William D. Thomson can be reached on (571)272-3718. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


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